

# MRF of the Month

## Michigan State University Surplus Store & Recycling Center

In the Southeastern Michigan college town of East Lansing, home to Sparty, Izzo and one of the largest Greek systems in the nation, sits one of the most sophisticated MRFs to be operated by an institution of higher education.



Managed by MSU Recycling (formally the university's Office of Recycling and Waste Management), the MSU Surplus Store & Recycling Center is a 73,000-square-foot (MRF consumes 18,000 square feet), \$13.3-million facility that also houses an education center, MSU's Surplus Storage Solutions, as well as the university's Waste Management department.

Constructed to handle recyclables generated on campus, such as multiple forms of fiber (e.g., mixed paper, books, catalogs and directories), all plastics labeled Nos.1-7 and basic household metals, material is collected campus-wide using a multi-stream approach and is processed through the use of one sorting line. Outside of traditional residential recyclables, the facility also handles copy toner cartridges (3,642 cartridges recycled in 2009) and used consumer electronics, with reusable e-scrap being sold through the MSU Surplus Store.

The MRF was designed with a maximum annual capacity of 5,500 tons. According to Kelsey Turek, a representative with the MSU Recycling Center, the facility handles nearly three tons of material per day – a majority of that throughput being fiber-related products – and processed 381.5 tons of scrap and household metal, 327.1 tons of fiber and 20.25 tons of plastics (polyethylene terephthalate and high-density polyethylene) during the last quarter of 2009, alone. The facility is outfitted with equipment from Harris Waste Management Group, Inc. and Karl W. Schmidt & Associates.

Unlike most MRFs, where contamination from unaccepted items, such as plastic bags or food scraps, is typically the biggest issue facing a facility, for the MSU Recycling, the biggest issue is actually learning how to run the MRF efficiently, as it's only been open for around seven months.

What makes the MSU Surplus Store & Recycling Center a truly noteworthy facility is all the sustainable elements that were incorporated into the design and construction of the MRF. Having already received silver Leadership in Energy and Environmental Design certification – the facility is actually anticipating achieving "Gold" certification status – these features include, but are not limited to: The installation of 192 photovoltaic panels that provide up to 10 percent of the building's total electrical needs; the operation of a rooftop rainwater harvesting system that replaces domestic water used for the MRF's toilets, urinals and pressure washer – provides 60 percent of the building's water supply; strategically placing four rain gardens on the outside edges of the pavement around the building to reduce river and stream pollution; the installation of porous asphalt in the east parking lot to help manage storm runoff; 15 percent of exterior concrete consists of recycled green glass particles; and, equipping the facility's conference room and Education Center with counters/tables construct-



### Technical Specifications\*

Michigan State University Surplus Store & Recycling Center

#### Location:

East Lansing, Michigan

#### Start-up date:

August 2009

#### Number of processing lines:

One

#### Throughput:

Approximate tons, per day: three

Fiber: 2.75

Plastics: 0.17

#### Tons of material processed (September 2009 – December 2009):

Metal: 381.5

Fiber: 327.1

Plastics: 20.25

#### Residue rate:

One to two percent

### 2007-2008 Materials Processing and Recycling in the United States: Yearbook and Directory

#### 5th Edition — Print or CD-ROM

The 1,300 page Yearbook is the only comprehensive guide to Materials Recovery Facilities (MRFs) in the United States, providing information on 583 operating, planned and shut projects. A nationally recognized resource, it provides a strategic analysis of the post-consumer recycling industry and a database of U.S. Material Recovery Facilities. It is an invaluable reference tool for solid waste decision makers, planners, consultants, and organizations interested in the present and future of recycling.

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ed from 100-percent recycled glass (EnviroGLAS).

The MSU Surplus Store is open to the public every Tuesday and Friday and sells used products collected from various MSU departments. Typical inventory includes office and residence hall furniture, lab equipment and supplies, vehicles, computers and electronic equipment, farm equipment, books, and much more. The MSU Recycling Center employs three full-time equivalent workers and approximately 20 students (rotating sort line positions), all of which work under one shift. Be Spartan green.

\*Know of a North American MRF that you feel *Resource Recycling* readers should know about? If so, e-mail your recommendation, with hi-resolution pictures, to [justin@resource-recycling.com](mailto:justin@resource-recycling.com), and your facility may just be highlighted in a future "MRF of the Month" column.

